

Procedure:

1. Design a procedure to roll a cart into a barrier, in order to see how far the barrier moves when the cart's momentum is transferred into it. You should include steps to vary the mass and velocity of the cart.

2. Create a data table or chart in the Observe and Analyze section to record the following:

- * the different masses and velocities of the cart (make at least four variations)
- * the distance the barrier moves on impact with the cart
- * whether each cart trial had a relatively low, medium or high momentum

3. Follow your procedure and record your results in the data table or chart.

Observe and Analyze:

Car = 151.3 g

1. Identify the variable(s) you are testing during your experiment.

The mass and velocity

2. Draw a chart or data table to record the results of your investigation.

	90cm ₁	80cm ₂	70cm ₃	Avg
12 wash. variable 1	97.5	96.5	76	90
14 wash. variable 2	78	81	84	81
16 wash. variable 3	68	75.4	85	76.1
30 wash. variable 4	91	84	99	89.6
100 wash variables	176cm	167.5	147.5	163.6

7110
units

Step 5

- 1 → roll cart with 12 wash at 90, 80, 70 cm
- 2 → 14 wash at 90, 80, 70 cm
- 3 → 16 wash at 90, 80, 70 cm
- 4 → 30 wash at 90, 80, 70 cm
- 5 → 100 wash at 90, 80, 70 cm
- 6 → record data

Elaborate - 3

Conclusion:

1. What effect did increased mass have on the distance the barrier moved?

It moved the barrier further.

2. What effect did increased velocity have on the distance the barrier moved?

It moved the barrier further